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ABSTRACT

This discussion of the advantages and disadvantages of using television in an open university's distance learning program begins by examining the parameters of the use of television in distance learning, i.e., distribution, utilization, and production. It is suggested that television provides two unique presentational characteristics when used in distance learning: (1) its ability to bring to open learning students material otherwise not available; and (2) its ability to help the learning process in unique ways, such as providing concrete examples, modeling processes, combining pictures and commentary, and relating examples to principles. Several methods of harnessing television's potential in practical and cost effective ways are suggested, including use of existing materials and production of one's own programs. Distribution and format questions are also examined, and what students actually learn from television is considered. Finally, it is suggested that the correct use of television can reduce the number of dropouts, increase comprehension, and enhance the quality of open learning by assisting in the development of higher order learning skills. The text is supplemented by a list of addresses of organizations involved in television and open learning. (15 references) (EW)

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Television: essential or extravagant?

Perhaps of all the media available for open learning, television is the least understood and most neglected by designers and tutors of open learning. It is generally considered to be an expensive use of resources, and when it is used in open learning, it is often used very badly. However, television can be an extremely valuable resource, when used selectively and with care.

Secondly, television as a medium is subject to considerable change. New technology is both extending its range of uses, and helping to eliminate some of the weaknesses previously associated with its ephemerality. New organisations and methods of delivery (Open Tech., Open College, Open University, video-cassette, video-disc, cable and satellite) are developing, which are leading to greater diversity in the use of television. This diversity also makes generalisation difficult, but even so, a good deal is now known about how to use television successfully in open learning. I shall refer to a number of organisations in what follows, and addresses are listed at the end of the chapter.

Different uses of television

It is important to be clear about the different kinds of television available for open learning. There are three main parameters: the method of distribution, the method of utilisation, and the type of production.

Distribution

The most common form of distribution is by *terrestrial broadcasting* through the BBC or IBA transmission network in Britain, i.e. radiated from a ground transmitter, with programmes often relayed between different transmitters to form a network perhaps covering the whole country. Other forms of broadcast distribution which are becoming increasingly important are by *cable* or *satellite* transmission. Another way of distributing television is by *cassette* or *disc*, mailed directly to students or purchased or hired.

Utilisation

Television can be used in several forms. Perhaps the most common is the uninterrupted programme, seen straight through, once only. This is the way an unrecorded broadcast *must* be

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used; however, it is not uncommon for television to be used in this way, even when recorded on cassette.

Once recorded on to cassette or disc, though, television can be used quite differently from viewing a broadcast. The tape or disc can be stopped, some parts can be selected for use, and not others, and the same television material can be used as many times as required.

Television can stand independently, as a broadcast programme on its own, or it can be integrated with other media, such as print or audio-cassettes. The print may just back up a programme (as with many adult education broadcasts), or may (as at the Open University) be the main medium, with television as another component of the course.

Computer control can be added to either a cassette or disc, so that the student is guided to work through different parts of the television material, with activities or tests of learning built in.

Lastly, programmes may be used by an individual student, or in a group, with or without a tutor. Again, the material is likely to be used differently, according to the context.

Production

The different types of television production vary enormously, but one major difference is whether television is being used primarily to distribute illustrated classroom lectures to a wider audience, or whether it is being used deliberately to exploit the unique visual characteristics of television. In the relayed classroom lecture, the emphasis is not so much on the unique *presentational* characteristics of television (discussed in this next section of this chapter), but more on its *distributional* characteristics.

Programmes made by broadcasting organisations are generally meant to stand on their own, in that they have a unity of their own. *Broadcasts* tend to adopt a continuous flow, deliberately being constructed to hold the viewer's attention right through the programme, and often provide material not otherwise available to the viewer or teacher, thus exploiting the unique presentational characteristics of the medium.

Television, though, while concentrating on its unique presentational characteristics, can be structured quite differently from a broadcast programme, particularly if it is intended to exploit some of the utilisation characteristics of *cassette* or disc. Thus television material may be made in

short independent segments, with clear stopping points, explicit directions for activities or questions for discussion. Similar points on the use of audio-cassettes are made in more detail in Chapter 17. These directions may be either on the cassette itself, or in computer software controlling the cassette or disc. A cassette style can be adopted, whether or not the programmes are broadcast. For instance, most secondary schools, FE and adult education colleges record broadcasts on cassette for later viewing (time-shift recording). If that is the main use, there is no technical reason why broadcast programmes could not be produced in a cassette style, particularly if transmitted at times when few are likely to watch, such as the middle of the night; broadcasting may be just the most economical means by which cassette format programmes could be distributed to large numbers. However, in general, broadcasting organisations have not made many programmes in cassette style for broadcasting, although the numbers are increasing.

Lastly, programmes may be either completely pre-recorded, or include a *live* element, including feedback or questioning from students, or exchange of materials from different sites. There is no technical reason why live, interactive programming cannot be done using terrestrial broadcasting, but due primarily to scarcity of time on terrestrial networks, such use has tended to be confined to cable or satellite broadcasting.

These different characteristics of educational television are very important for open learning. Television is not a homogeneous medium, but can be used in many different ways, according to the learning context and the teaching aims.

Unique characteristics of television

Before going any further, we should ask *why* we should use television in open learning.What can it do that can't be done by other methods, such as print or face-to-face tutorials? This means looking at the unique educational characteristics of television. As well as the ability of television to *deliver* learning material to large numbers of students, there are two main *presentational* characteristics of television.

The first is television's ability to bring to open learning students material not otherwise available, such as experiments requiring expensive laboratory equipment, case-study material of social and technological events, field-visits, dynamic presentation of ideas through animation and graphics. Many more examples could be given (see Bates, 1984, pp. 244-247, for a list of such functions found appropriate in the Open University context).

The second is television's ability to help the learning process in unique ways. Television can provide concrete examples or models of abstract principles, can model processes, and through the combination of picture (usually providing the example) and commentary, relate example to principle. In other words, for many students there are often times when words are not enough; they need to be able to see to understand, and television is one way - in an open learning situation often the only way - in which this can be done.

If it is accepted then that television can in principle be useful in open learning, how can it be practically and economically harnessed?

Using existing material

Broadcasts

Even before the Open College gets going, there are over 1,000 educational programmes a year aimed at adults broadcast in the United Kingdom (BBC, ITV companies on the IBA network, Channel 4, and the Open University). Each organisation has a publication giving brief details of all the series to be broadcast each year. All of this material is available to educational users free of charge, if used as a live broadcast. There are constraints though on recording broadcast material, depending on the broadcasting organisation. BBC and ITV schools and continuing education material may be recorded free for educational purposes, but must not be kept beyond a certain period of time, nor used for commercial gain. In the case of Channel 4 and the Open University, a licence is required to make recordings. At the time of writing, it is still illegal to record non-educational broadcasts, but the whole question of recording material for educational use is being discussed by parliament. It is likely to become easier rather than more difficult to record broadcast material free of charge for educational purposes, partly because policing is difficult, and partly because broadcasting organisations want their educational materials to be widely and flexibly used. If you want to incorporate broadcast material into open learning packages however, it is essential to get clearance first.

The standard way of using educational broadcasts is to play them through, either on transmission or on cassette, with some brief pre-programme preparation, then questions or discussion afterwards, or some individual work. This mode of utilisation is encouraged both by the style of production, and by the notes accompanying the broadcasts. While there are occasions where this might be helpful to a tutor looking for material to support an open learning package, this is not likely to be the best way to use television for open learning. There are several other strategies.

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One way is to build an open learning package around a television series. This enables broadcasters to exploit the full range of televisual techniques and the presentational characteristics of television, and can draw in large audiences to further study around the series. The National Extension College for instance has designed several courses around educational television series (e.g. BBC's "The Computer Programme"). This appears to be one of the major uses proposed for the forthcoming Open College. Broadcasters will make television series (in this case in the technical and vocational area) and it is expected that other agencies will run courses around them. There are two ways in which this could be done. One is to have a series of lectures or tutorials which coincide with the broadcast series (either showing the programmes followed by discussion, or students watching programmes on their own at home, with lectures or tutorials running independently). The other is to prepare independent study materials, in the form of printed material, to accompany the programmes. In other words, students watch and study primarily at home. The first method has the advantage of being relatively simple to organise and does not need much advanced preparation on the tutors' part; it has the disadvantage though of requiring students to attend regularly at local centres. Both methods of course can be combined.

One practical problem of preparing special print support material is co-ordinating the production of the print with the television material. Broadcasters have their own production schedules, and scripts and programme material may not be available until quite close to transmission. This can mean lengthy negotiation with the broadcasting organisation, and knowing well in advance what they are planning. It may be better to run the open learning course for the first year *after* television presentation. Another disadvantage of this strategy is that the television series may not cover the subject matter in the depth or the way that your open learners need.

One way round the problem of the broadcast material dictating the curricular approach is to *select* from a range of broadcast material those elements which will best fit into the open learning package you are intending to develop. In this way, only that television material which is directly relevant to your teaching is included. This may mean using quite short clips, and accumulating them on to a cassette, which students access as and when they need to. While this is simple to do technically, though, there are major practical difficulties. First of all, you will need to know which programmes are likely to be useful, and have them available in a recorded version of good enough quality for reproduction. (This will require recording on at least a 3/4" master, if many 1/2" copies are to be made. There are plenty of companies though who will do the copying from the master tape, relatively cheaply.) The major problem is that you will need permission from the broadcasting organisation to use their material in this way, and it may not be forthcoming, particularly if you

intend to market the open learning packages. Clearing copyright can be expensive and time-consuming, particularly if the programmes contain secondary rights (in other words, the production used material, such as the music in the programme, whose rights were owned by someone other than the broadcasting organisation). Nevertheless, it may be worth the trouble of seeking clearance. Some programmes, when made by broadcasting organisations, have all rights cleared, and it may well be possible to use such material for a relatively small fee to the broadcasting organisation. There are also plenty of hard-bitten educators around though whose view is that it's not worth the effort to try to get clearance to use broadcast material in this way, because of the costs and the difficulties.

It can be seen that despite the availability of a great deal of high quality broadcast television material, it is not a simple matter to incorporate it into open learning material.

Non-broadcast material

In Britain, there are over 200 educational establishments with their own production facilities, ranging from full broadcast-standard facilities at places like the University of Leeds, to small 1/2" recorders and a camera in some schools. The great majority of these production centres belong to the Educational Television Association. Many of these centres have high-quality materials already made and available for sale. Many of these are listed in the catalogue of another association, the British Universities Film and Video Council. In addition, there are another 200 commercial video and film companies making training and promotional material for industry and commerce. Many of these belong to the International Television Association (ITVA - no connection with ITVC, which is a representative organisation of independent broadcasting companies in Britain). As its name suggests, the ITVA has branches in many countries, and the non-broadcast sector is particularly strong in North America. Clearance of rights from these non-broadcast production centres is usually much easier for secondary use, and certainly much cheaper in most cases, than from the broadcasting organisations.

However, one needs to be very careful in using this material. It can be very patchy in quality, and tracking down just the right example or insert will in most cases be extremely time-consuming. In many cases, the material may not exist in the form required.

It is not surprising then that in most cases, people generally end up wanting to make their own materials for a particular open learning package.

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Making your own programmes

Making your own television materials for an open learning package is never going to be a cheap option, but it may cost a lot less than you think. Before embarking though on making your own programmes, it is important to be clear about what you want the television programmes to do.

Defining your needs

This is certainly the most important, and perhaps the most difficult, step to take, and one where professional advice is likely to be essential. *Why* is television to be used, and for what *teaching purposes* ? It may be that the aim is to take advantage of the *distribution* characteristics of television, by recording and distributing illustrated classroom lectures. If that is the intention, though, questions need to be asked as to whether or not this might be done more cheaply and effectively by print, or a combination of print and audio cassette. If on the other hand the aim is to exploit the unique *presentational* characteristics of television, then three kinds of expertise are required. The first is knowledge of what television can do, related to the subject matter to be taught. This is important, because a skilled television producer may be able to suggest ways of using television which would never occur to a teacher without any experience of using television. The second is knowledge of the subject matter, and valid and effective ways to teach that subject matter. The third is expertise in instructional design, how to integrate the television material with the other teaching material, and how to help learners get the most from the television material. These three kinds of expertise rarely exist in one person; therefore a team approach is required, where those with different expertise work together to create the whole package. Exploiting the presentational characteristics of television can be particularly valuable when learners lack a basic understanding or grounding in a subject, or where the ideas in print tend to be abstract and difficult, because television can provide concrete or real-life examples of the ideas and concepts being discussed.

The team approach though takes time, and costs money. Speed and cost may be of the essence. If the main purpose is to get the latest information on new developments out as quickly as possible, or to up-date those with already a good grounding and basic understanding of a subject, then the illustrated lecture may be the best approach, since the television production time is less, and it needs less preparation time for the subject experts, for whom this may be an important consideration. This assumes though that the alternative of audio-cassette or print production has been considered and dismissed.

In-house or external production?

There are two ways basically to make your own television material. The first is to use the in-house production facilities of your own institution, if they exist. In most cases, this will mean you will have to pay only marginal costs, i.e. the actual costs involved in making the programme (film, commissioned graphics, actors, etc.) but not the overheads (salaries of production staff, studios and equipment), because the facility already exists. The disadvantage is that your in-house production facility may not have the skills or facilities to do just what you need. It is important to define your needs before committing yourself to in-house production.

If you do not have in-house production facilities, it would not be justified to invest in them for open learning purposes, unless it is planned to produce enormous quantities of television material each year (over 200 programmes a year). There is already a wide range of educational production facilities, and plenty of spare production capacity. Many production centres are willing to charge just marginal costs, or only a small amount for overheads, in order to maximise their facilities and bring in extra revenue. Care is needed in choosing the right production agency for your needs, but production may cost far less than might be expected, depending on your needs. Simple programmes, requiring recording of events or simple studio work, can cost as little as £2,000. The BBC/Open University Production Centre, which is probably the best equipped educational production facility in Europe, if not the world, can charge as little as £8,500 for a 25 minute, high quality programme in the Continuing Education area, at marginal cost rates. On the other hand, a 25 minute programme requiring expensive computer animation, overseas filming, actors or musicians, or expensive special effects, can cost anywhere between £20,000 and £100,000. As always, one tends to get what one pays for, but for open learning purposes, relatively low-cost production may often be quite adequate.

Distribution and format

In most cases, open learning material will best be distributed on cassette. In 1986, approximately 50% of all homes in Britain had a video recorder. Unless you go through the Open University or Channel 4, it will be difficult to get access to broadcasting, and unless you are primarily concerned with just recruitment or raising awareness, the material will be more effective on cassettes. The Open University has found it cheaper to distribute material on cassette than to pay transmission charges when there are less than 350 students on a course per annum.

Computer-controlled video-discs are attracting a good deal of attention in the industrial training

area. These can be valuable, where there is a specific training need involving complex skills or subject matter, a fixed and invariant way of doing things, and many individual points of training (e.g. the training of bank cashiers). However, computer-controlled video disc production is extremely time-consuming, complex and expensive, and can only be justified where alternative training methods are equally costly. Cassettes in fact, with suitable built-in activities, for either individual or group work, can be a much more flexible training medium than computer-controlled discs.

Learning from television

In the end, though, what do learners get from television? Do they learn just as well as from, say, print or face-to-face lectures? Yes, students can learn just as well, if not better, from television, but *what* they learn, and how effectively, depends on how the programmes are designed.

There is a good deal of research evidence which suggests that content may be learned just as well through television as through print (see for instance Schramm, 1974, for a good summary of this research). However, media differ in the kinds of learning they encourage. Thus in general, print is best for teaching in a condensed way, dealing with abstract principles, where knowledge of detailed facts or principles is important, and where knowledge is clearly defined. Television on the other hand is much better for dealing with complex or ambiguous situations, for providing concrete examples to illustrate abstract ideas or principles, and for encouraging students to make their own interpretations and to apply what they have learned in an abstract way to new situations (see for instance Trenaman, 1967; Salomon, 1979; Bates, 1983; Bates, 1984).

The extent to which television is successful in doing this depends on how programmes are made. Television is rarely best used as the prime medium for delivering large quantities of information; instead, it is much more valuable for providing deeper understanding and for developing skills of analysis and application of ideas presented through other media, particularly print. If the programme is designed to give concrete examples of abastract ideas, it is necessary to make the relationship explicit. Open-ended documentary style programmes, bringing in case-study material for analysis by the student, can help develop students' skills at applying and interpreting what they have learned (see Bates and Gallgher, 1987).

Because television is such a familiar medium, it tends to be taken for granted that students will know how to learn from it. This is not the case. There is evidence (Bates and Gallagher, 1987) that students need help and guidance to use television, particularly where comprehension is not the main

purpose. Most students approach television as if it were a lecture, unless the programme is made in such a way as to encourage them to question and analyse what is being presented to them. This may mean building in stopping points for discussion, direct questions on the commentary, replaying sequences with different interpretations, etc. Television can be a very passive medium. For individual learners, this can be avoided by designing the programmes to encourage frequent interaction with the material through relevant activities (see Durbridge, 1985). The most effective way to get the most out of television material, though, when interpretation and application are the main aims, is through group discusssion, guided by relevant questions for discussion. This is one reason why live, interactive programming, even for rather straight television lectures, is so important.

A question of quality

Despite the difficulties and the extra costs incurred, there is no doubt in my mind that television has an important and valuable role to play in open learning. As well as being highly motivating, adding interest to a course, it can help students with difficulties in comprehension, and even more so can enable students to develop the high level skills of analysis, interpretation, evaluation, and application. Many of the weaknesses of ephemeral broadcasts can be avoided by recording material in a permanent form, and by designing material to encourage interaction and active learning from the students. A well-designed television component can not only help reduce drop-out and increase comprehension, it can also assist the development of higher-order learning skills. In other words, television can increase the *quality* of open learning.

Useful addresses

BBC Education,
The Broadway,
Ealing
London W5

IBA
London
SW3 1EY

Channel 4
60 Charlotte Street,
London W1

The Open University,
Walton Hall,
Milton Keynes,
MK7 6AA

Educational Television Association,
The King's Manor,
Exhibition Square,
York YO1 2EP

British Universities Film and Video Council,
55 Greek Street,
London W1

International Television Association,
Gt. Queen Street,
London WC2

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